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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,892	08/04/2000	Joseph D. Lichtenhan	38559-257945(6565-03)	1993

7590 03/25/2003

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/25/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/631,892	<b>Applicant(s)</b> LICHTENHAN ET AL.	
	<b>Examiner</b> Jeffrey B. Robertson	<b>Art Unit</b> 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-32,46-72,86-98,114-116,118 and 128 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-32,46-72,86-98,114-116,118 and 128 is/are rejected.
- 7) ☒ Claim(s) 32,58,72 and 98 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input checked="" type="checkbox"/> Other: See Continuation Sheet.       |

Continuation of Attachment(s) 6). Other: Decision under 37 C.F.R. 1.48(a).

**DETAILED ACTION**

***Response to Amendment***

1. The amendment of 1/10/03 is objected to because there is an underlined comma in the clean copies of claims 29 and 93.

***Claim Objections***

2. Claims 32, 58, 72, and 98 are objected to because of the following informalities:  
the variable X' does not correspond to X of the formula R"MgX.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 29, 32, 53-55, 58, 67-69, 72, 93-96, and 98 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For claims 29, 32, 53, 58, 67, 72, 93, and 98, applicant has not shown support for the definitions of R" and X' in the specification. The specification, on page 6, lines 4-25 does not set forth the definitions for the variables set forth in the claims.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 22-32, 46-72, 86-98, 114-116, 118, and 128 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claims 22, 46, 59, 86, 114, and 128, for the variables m, n, p, and #, the claims are indefinite because they provide no indication as what numerically these variables are. Therefore, the limits of the claims cannot be determined. Also for claim 114, the claim contains variables m, n, p, and #, which are not present in any of the formulas set forth in the claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 128 is rejected under 35 U.S.C. 102(b) as being anticipated by Marsmann et al. (Polyhedron Journal article).

For claim 128, Marsmann teaches on page 3357, in the abstract that silsesquioxanes of the formula  $R_8(\text{SiO}_{1.5})_8$  are rearranged to give POSS of the formula  $R_{10}(\text{SiO}_{1.5})_{10}$  and  $R_{12}(\text{SiO}_{1.5})_{12}$ . As shown in Figure 1 on page 3358, Marsmann teaches that the POSS produced are nanostructure compounds where R equals a functionality substituent such as  $\text{ClC}_3\text{H}_6-$  or  $=\text{NCSC}_3\text{H}_6-$ .

9. Claim 128 is rejected under 35 U.S.C. 102(b) as being anticipated by Tomoyori et al. (U.S. Patent No. 4,483,107).

For claim 128, in column 4, lines 3-65, Tomoyori teaches several silsesquioxanes having nanostructure in formulas 2-4. Here Tomoyori teaches functionality substituents where R is equal to alkoxy.

### ***Response to Arguments***

10. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

11. Claims 32, 58, 72, and 98 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first and second paragraph, and the claim objections set forth in this Office action.

12. Claims 29, 53-55, 67-69, and 93-96 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first and second paragraph.

13. Claims 22-28, 30, 31, 46-52, 56, 57, 59-66, 70, 71, 86-92, 114-116, 118, and 128 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

### ***Conclusion***

14. This action is not made final due to the new grounds of rejection stated herein, namely the rejection of the claims under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, and the


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rejections of claim 128 under 35 U.S.C. § 102 (b). The examiner apologizes for not bringing these issues to applicant's attention in the previous office action

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JBR   
March 20, 2003



Robert Dawson  
Supervisory Patent Examiner  
Technology Center 1700